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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/881,698	06/18/2001	Yukio Tozawa	OGW-00036	8591

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EXAMINER
MAKI, STEVEN D

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/881,698	TOZAWA ET AL.
	Examiner	Art Unit
	Steven D. Maki	1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8-11-03 has been entered.

2) The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Incorporation of the description of the protrusion from amended claim 1 into the specification and incorporation of the description of the slit from amended claim 4 into the specification. It is suggested to make the following changes in the specification: (1) on page 2 line 20 after "bottom." insert --The protrusion comprises a flat top surface and a pair of slanted walls so that the protrusion has a generally trapezoidal shape.-- and (2) on page 9 line 1, after "circumferential direction." insert --As shown in figure 4, the cut 10 forms a first divided protrusion section in facial contact with a second divided protrusion section.--. The subject matter in each of the above insertions is reasonably conveyed by the original disclosure when the original disclosure including the original figures is considered as a whole. Figures 1 and 3-4 show the protrusion as having a flat top surface and a pair of slanted walls so that the protrusion has a generally trapezoidal shape. Figure 4 shows the cut 10 as forming a first divided protrusion section in facial contact with a second divided protrusion section. In other words, the subject matter in each of the above insertions is not new matter.

3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Japan '609

4) **Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (specification page 1 lines 9-25, page 2 lines 1-4, page 10 lines 14-18) in view of Japan '609 (JP 9-150609).**

The admitted prior art discloses a pneumatic tire having a ribbed tread comprising circumferential main grooves whose width narrows during inflation wherein both groove walls of the main groove are inclined at 80 degrees with respect to the tread surface. The admitted prior art appears to teach that uneven wear occurs with this tire. A protrusion is not provided at the groove bottom.

As to claim 1, it would have been obvious to one of ordinary skill in the art to provide the main grooves of the admitted prior art tire such that:

- the groove walls outwardly incline from the tread surface such that the groove width increases toward the bottom of the groove and an acute angle is defined between between the tread surface and groove wall; and

- a protrusion is provided at the groove bottom

since Japan '609 suggests outwardly inclining groove walls to increase the width of the circumferential groove toward the groove bottom and providing a protrusion at the groove bottom so that after the tire wears the number of circumferential grooves

increases and deterioration of wet performance is prevented (see for example figure 3A). As to the claimed shape of the protrusion, Japan '609 shows a generally trapezoidal protrusion having a flat top and slanted sidewalls. See for example figure 3A.

The limitation of respective ones of the pair of slanted sidewalls and the grooves walls being oriented parallel to each other as viewed in cross section would have been obvious in view of Japan '609's suggestion to set the width of the gap between the groove wall and the protrusion slanted wall constant so that drainage performance is stabilized during the wear of the second half of the tread. See paragraph 30 of machine translation. With a constant gap width, the groove wall and the protrusion slanted wall are parallel to each other. Hence, Japan '609 teaches both (a) the groove wall intersecting the tread surface at an acute angle (e.g. figure 3A) and (b) the groove wall and the protrusion slanted wall being parallel (paragraph 30).

As to claim 6, Japan '609 suggests using a straight circumferential groove.

Kukimoto et al

5) **Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (specification page 1 lines 9-25, page 2 lines 1-4, page 10 lines 14-18) in view of Kukimoto et al (US 5445201) and at least one of Montagne (US 3763911) and Japan '609 (JP 9-150609).**

The admitted prior art discloses a pneumatic tire having a ribbed tread comprising circumferential main grooves whose width narrows during inflation wherein both groove walls of the main groove are inclined at 80 degrees with respect to the

tread surface. A protrusion is not provided at the groove bottom. The admitted prior art appears to teach that uneven wear occurs with this tire.

As to claim 1, it would have been obvious to one of ordinary skill in the art to provide the main grooves of the admitted prior art tire such that

- the groove walls outwardly incline from the tread surface such that the groove width increases toward the bottom of the groove and an acute angle is defined between between the tread surface and groove wall; and

- a protrusion is provided at the groove bottom

since Kukimoto et al, also directed to a pneumatic tire having a ribbed tread comprising circumferential main grooves, suggests providing the main groove such that both groove walls are outwardly inclined and a ribbed shaped protrusion (stepped zone) is located in the groove (e.g. figure 22b, 23b) *so that the tire has excellent uneven wear resistance*. As to the claimed shape of the protrusion, Kukimoto et al shows a generally trapezoidal protrusion having a flat top and slanted sidewalls.

Furthermore, it would have been obvious to provide the sidewalls of the protrusion and the groove walls of the groove such that respective ones the protrusion sidewalls and the groove walls are oriented parallel to each other as viewed in cross-section in view of Kukimoto et al's teaching to incline the groove wall and the protrusion slanted wall in the same direction and in view of Montagne and/or Japan '609's teaching to incline a groove wall and a protrusion wall in the same direction such that the walls are parallel to each other. Kukimoto et al, directed to preventing wear, suggests *outwardly inclining the protrusion sidewalls and the groove walls* such that respective

ones of protrusion sidewalls and groove walls are inclined in the same direction. Montagne, directed to preventing wear, suggests *outwardly inclining "first sidewalls" of a pair of protrusions and the groove walls* such that respective ones of the "first sidewalls" of the protrusions and the groove walls are inclined in the same direction and parallel to each other; it being noted that (1) in Montagne, the "first sidewalls" of the protrusions are defined by narrow grooves 24 which *undercut* ribs and (2) in Kukimoto et al the walls of the protrusion are defined by relatively narrow grooves 41 which *undercut* ribs. No unexpected results of preventing uneven wearing over Kukimoto et al have been shown. In particular, no unexpected results for parallel respective ones of sidewalls and groove walls (in contrast to non-parallel respective ones of sidewalls and groove walls) have been shown. Japan '609, which teaches a protrusion having the same shape as Kukimoto et al's protrusion, suggests setting the width of the gap between the groove wall and the protrusion slanted wall constant so that drainage performance is stabilized during the wear of the second half of the tread. See paragraph 30 of machine translation. With a constant gap width, the groove wall and the protrusion slanted wall are parallel to each other.

As to claims 2 and 3, the limitation of the height difference being 0-2 mm (claim 2) / protrusion height being at least 80% of groove depth (claim 3) would have been obvious and could have been determined without undue experimentation in view of Kukimoto et al's teaching to locate the top of the protrusion (stepped zone) slightly below the tread surface so that the protrusion (which may define a height difference of 2 mm) contacts the road so as to serve as an uneven wear sacrificed portion.

As to claim 6, the limitation of the main groove being straight would have been obvious in view of Kukimoto et al's teaching to use a straight circumferential groove as an alternative to a zigzag circumferential groove and optionally Japan '609's suggestion to configure a circumferential groove having substantially the same cross section as that of Kukimoto et al's groove as a straight circumferential groove.

6) **Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (specification page 1 lines 9-25, page 2 lines 1-4, page 10 lines 14-18) in view of Kukimoto et al (US 5445201) and at least one of Montagne (US 3763911) and Japan '609 (JP 9-150609) as applied above and further in view of Japan '709 (JP 9-11709).**

As to claim 4, it would have been obvious to divide the protrusion as claimed in view of (a) Kukimoto et al's teaching to divide (albeit in the circumferential direction) the rib shaped protrusion (stepped zone) in the groove using slits and (b) Japan '709's teaching to form a circumferential sipe in a protrusion for improving wear even at low speed or small load.

7) **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (specification page 1 lines 9-25, page 2 lines 1-4, page 10 lines 14-18) in view of Kukimoto et al (US 5445201) and at least one of Montagne (US 3763911) and Japan '609 (JP 9-150609) as applied above and further in view of Overman (US 2254622).**

As to claim 5, it would have been obvious to use protrusion composition different from the tread composition for the rib shaped protrusion suggested by Kukimoto et al in

view of Overman's suggestion to use different compositions for main ribs (black) and lower height ribs (white) to present a pleasing color effect.

Remarks

8) Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

9) No claim is allowed.

10) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
September 5, 2003

STEVEN D. MAKI 9-5-03
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733